


LISTING OF CLAIMS:

Claims 1-27 are pending in this application. No claims are herein amended.

News claims 28-31 are added.

The following listing of claims will replace all prior versions, and listings, of claims in the application.



1. (Previously Amended) A detection method for detecting driving characteristics of a vibration correction apparatus having a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit,

said method comprising:

providing a predetermined driving signal to the movement correction unit;

driving the movement correction unit on the basis of the provided predetermined driving signal;

detecting response amplitude and phase shift of the movement correction unit with respect to said predetermined driving signal;

obtaining correction information for changing a transfer frequency characteristic of a control system including the vibration detection device and the movement correction unit in accordance with the detected response amplitude and phase shift; and

storing the obtained correction information.

2. (Original) The method according to claim 1, wherein the movement correction unit is an optical correction unit including a variable angle prism.

3. (Previously Amended) The method according to claim 1, wherein upon obtaining the correction information, correction information corresponding to the detected response amplitude and phase shift is selected and fetched from a memory storing plural pieces of predetermined correction information.

4. (Previously Amended) A detection method for detecting driving characteristics of a vibration correction apparatus having a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit;

said method comprising:

providing a predetermined driving signal to the movement correction unit;

driving the movement correction unit on the basis of the provided predetermined driving signal;

detecting a driving range of the movement correction unit by comparing a driving result signal obtained with respect to said predetermined driving signal;

calculating an offset of the detected driving range of the movement correction unit with respect to a predetermined driving range reference value;

obtaining correction information for correcting a driving limit of the movement correction unit in accordance with the calculated offset; and

storing the obtained correction information.

5. (Original) The method according to claim 4, wherein the movement correction unit is an optical correction unit including a variable angle prism.

6. (Previously Amended) The method according to claim 4, wherein upon obtaining the correction information, correction information corresponding to the calculated offset is selected and fetched from a memory storing plural pieces of predetermined correction information.

7. (Previously Amended) A detection method for detecting driving characteristics of a vibration correction apparatus, correcting, and driving the vibration correction apparatus, wherein the vibration correction apparatus has a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit;

said method comprising:

providing a predetermined driving signal to the movement correction unit;

driving the movement correction unit on the basis of the provided predetermined driving signal;

detecting response amplitude and phase shift of the movement correction unit with respect to said predetermined driving signal;

obtaining correction information for changing a transfer frequency characteristic of a control system including the vibration detection device and the movement correction unit in accordance with the detected response amplitude and phase shift; and

driving the movement correction unit using the correction information.

8. (Original) The method according to claim 7, wherein the movement correction unit is an optical correction unit including a variable angle prism.

9. (Previously Amended) The method according to claim 7, wherein upon obtaining the correction information, correction information corresponding to the detected response amplitude and phase shift is selected and fetched from a memory storing plural pieces of predetermined correction information.

10. (Previously Amended) A detection method for detecting driving characteristics of a vibration correction apparatus, correcting, and driving the vibration correction apparatus, wherein the vibration correction apparatus has a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit;

said method comprising:

providing a predetermined driving signal to the movement correction unit;

driving the movement correction unit on the basis of the provided predetermined driving signal;

detecting a driving range of the movement correction unit with respect to said predetermined driving signal;

calculating an offset of the detected driving range of the movement correction unit with respect to a predetermine driving range reference value;

obtaining correction information for correcting a driving limit of the movement correction unit in accordance with the calculated offset;

storing the obtained correction information; and

driving the movement correction unit using the stored correction information.



11. (Original) The method according to claim 10, wherein the movement correction unit is an optical correction unit including a variable angle prism.

12. (Previously Amended) The method according to claim 10, wherein upon obtaining the correction information, correction information corresponding to the calculated offset is selected and fetched from a memory storing plural pieces of predetermined correction information.

13. (Previously Amended) A detection method for detecting driving characteristics of a vibration correction apparatus having a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit;

said method comprising:

outputting a driving signal corresponding to a predetermined vibration;

driving the movement correction unit on the basis of the outputted driving signal;

detecting response amplitude and phase shift of the movement correction unit

with respect to the outputted driving signal;

obtaining correction information for changing a transfer frequency characteristic of a control system including the vibration detection device and the movement correction unit in accordance with the detected response amplitude and phase shift; and

storing the obtained correction information.

14. (Original) The method according to claim 13, wherein the movement correction unit is an optical correction unit including a variable angle prism.

15. (Previously Amended) The method according to claim 13, wherein upon obtaining the correction information, correction information corresponding to the detected response amplitude and phase shift is selected and fetched from a memory storing plural pieces of predetermined correction information.

16. (Previously Amended) A detection method for detecting driving characteristics of a vibration correction apparatus having a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit;

said method comprising:

outputting a driving signal corresponding to a predetermined vibration;

driving the movement correction unit on the basis of the outputted driving signal;

detecting a driving range of the movement correction unit with respect to the outputted reference driving signal;

calculating an offset of the detected driving range of the movement correction unit with respect to a predetermined driving range reference value;

obtaining correction information for correcting a driving limit of the movement correction unit in accordance with the calculated offset; and

storing the obtained correction information.

17. (Original) The method according to claim 16, wherein the movement correction unit is an optical correction unit including a variable angle prism.

18. (Previously Amended) The method according to claim 16, wherein upon obtaining the correction information, correction information corresponding to the detected

calculated offset is selected and fetched from a memory storing plural pieces of predetermined correction information.

19. (Previously Amended) A detection method for detecting driving characteristics of a vibration correction apparatus, correcting, and driving the vibration correction apparatus, wherein the vibration correction apparatus has a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit;

said method comprising:

outputting a driving signal corresponding to a predetermined vibration;

driving the movement correction unit on the basis of the outputted driving signal;

detecting response amplitude and phase shift of the movement correction unit

with respect to the outputted driving signal;

obtaining correction information for changing a transfer frequency characteristic of a control system including the vibration detection device and the movement correction unit in accordance with the detected response amplitude and phase shift;

storing the obtained correction information; and

driving the movement correction unit using the stored correction information.

20. (Original) The method according to claim 19, wherein the movement correction unit is an optical correction unit including a variable angle prism.

21. (Previously Amended) The method according to claim 19, wherein upon obtaining the correction information, correction information corresponding to the detected

response amplitude and phase shift is selected and fetched from a memory storing plural pieces of predetermined correction information.

22. (Previously Amended) A detection method for detecting of a vibration correction apparatus, correcting, and driving the vibration correction apparatus, wherein the vibration correction apparatus has a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit;

said method comprising:

outputting obtaining a driving signal corresponding to a predetermined vibration;

driving the movement correction unit on the basis of the outputted driving signal;

detecting a driving range of the movement correction unit with respect to the

outputted reference driving signal;

calculating an offset of the detected driving range of the movement correction unit with respect to a predetermined driving range reference value;

obtaining correction information for correcting a driving limit of the movement correction unit in accordance with the calculated offset;

storing the obtained correction information; and

driving the movement correction unit using the stored correction information.

23. (Original) The method according to claim 22, wherein the movement correction unit is an optical correction unit including a variable angle prism.

24. (Previously Amended) The method according to claim 22, wherein upon obtaining the correction information, correction information corresponding to the detected

calculated offset is selected and fetched from a memory storing plural pieces of predetermined correction

25. (Previously Added) A detection method for detecting driving characteristics of a vibration correction apparatus having a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit,

said method comprising:

providing a predetermined driving signal for moving the movement correction unit to a reference position to the movement correction unit;

driving the movement correction unit on the basis of the provided predetermined driving signal;

detecting an offset of the movement correction unit with respect to the reference position;

obtaining correction information for correcting an initial position of the movement correction unit in accordance with the detected offset; and

storing the obtained correction information.

26. (Previously Added) The method according to claim 25, wherein the movement correction unit is an optical correction unit including a variable angle prism.

27. (Previously Added) The method according to claim 25, wherein upon obtaining the correction information, correction information corresponding to the calculated offset is selected and fetched from a memory storing plural pieces of predetermined correction information.

28. (New) A detection method for detecting driving characteristics of a vibration correction apparatus having a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit;

said method comprising:

obtaining a signal corresponding to a predetermined vibration;

driving the movement correction unit on the basis of the obtained signal;

detecting response amplitude and phase shift of the movement correction unit with respect to the obtained signal;

obtaining correction information for changing a transfer frequency characteristic of a control system including the vibration detection device and the movement correction unit in accordance with the detected response amplitude and phase shift; and

storing the obtained correction information.

29. (New) A detection method for detecting driving characteristics of a vibration correction apparatus having a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit;

said method comprising:

obtaining a signal corresponding to a predetermined vibration;

driving the movement correction unit on the basis of the obtained signal;

detecting a driving range of the movement correction unit with respect to the obtained signal;

calculating an offset of the detected driving range of the movement correction unit with respect to a predetermined driving range reference value;

obtaining correction information for correcting a driving limit of the movement correction unit in accordance with the calculated offset; and

storing the obtained correction information.

30. (New) A detection method for detecting driving characteristics of a vibration correction apparatus, correcting, and driving the vibration correction apparatus, wherein the vibration correction apparatus has a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit;

said method comprising:

obtaining a signal corresponding to a predetermined vibration;

driving the movement correction unit on the basis of the obtained signal;

detecting response amplitude and phase shift of the movement correction unit with respect to the obtained signal;

obtaining correction information for changing a transfer frequency characteristic of a control system including the vibration detection device and the movement correction unit in accordance with the detected response amplitude and phase shift;

storing the obtained correction information; and

driving the movement correction unit using the stored correction information.

31. (New) A detection method for detecting of a vibration correction apparatus, correcting, and driving the vibration correction apparatus, wherein the vibration correction apparatus has a vibration detection device adapted to detect a vibration, a movement correction unit for correcting a movement of an image due to the vibration based on a vibration detection output detected by said vibration detection device, and a controller adapted to control an operation of said movement correction unit;

said method comprising:

obtaining a signal corresponding to a predetermined vibration;

driving the movement correction unit on the basis of the obtained signal;

detecting a driving range of the movement correction unit with respect to the obtained signal;

calculating an offset of the detected driving range of the movement correction unit with respect to a predetermined driving range reference value;

obtaining correction information for correcting a driving limit of the movement correction unit in accordance with the calculated offset;

storing the obtained correction information; and

driving the movement correction unit using the stored correction information.
